

DELAWARE STATE MEDICAL JOURNAL

*Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware*

VOLUME 20
NUMBER 2

FEBRUARY, 1948

Per Copy, 50c
Per Year, \$4.00

THE PRESENT STATUS OF DIABETES MELLITUS — 1947*

LEWIS B. FLINN, M. D. **

Wilmington, Del.

Twenty-five years ago Banting and Best made insulin available for the treatment of diabetes. What is the present status of diabetes mellitus? To what extent have the initial hopes as to the control or cure of the disease been realized? What is the proper course to follow to insure the best care from now on?

Certainly diabetics live longer than they did 25 years ago. Their life expectancy is approaching that of the population at large. In 1914 (Chart 1) the average age at death was 44 years, in 1944 it was 64 years. Recent

1922 50% died; from 1922 to 1929 20% and now in most clinics still less—Joslin's latest figures being under 2%. Prompt treatment, insulin given early, frequently and generously; fluids especially physiologic saline and glucose given in adequate amounts are the main reasons for this great improvement. However too many patients still die in coma throughout the country. This is in great part due to the

DIABETIC STATISTICS GEORGE F. BAKER CLINIC

INCREASING DURATION OF LIFE AFTER ONSET OF DIABETES BY AGE GROUPS AT ONSET

AGE AT ONSET Years	NAUHYN ERA		ALLEN ERA		BANTING ERA		HAGEDORN ERA					
	1898	1914	1914	1922	1922	1929	1930	1936	1937	1938	1940	1944
ALL AGES	4.9		6.1		8.1		10.6		12.6		13.7	
0-9		1.3		2.9		2.8		7.4		11.3		11.5
10-19		2.7		2.7		3.4		7.6		8.7		12.5
20-39		4.3		4.9		8.9		14.7		16.8		18.1
40-59		7.0		8.0		9.5		11.8		14.1		15.1
60 and over		4.4		6.4		5.5		7.2		8.8		9.5

TREAT DIABETICS TODAY, TOMORROW AND TWENTY YEARS HENCE

ERA	ADVANCING AVERAGE AGE AT DEATH		EXPECTATION OF LIFE for the GENERAL POPULATION AND FOR DIABETICS		
	NUMBER OF DEATHS	AVERAGE AGE AT DEATH (YRS.)	AGE	WHITE PERSONS	DIABETICS
NAUHYN (1898-1914)	326	44	10	57	40
ALLEN (1914-1922)	836	46	20	48	33
BANTING (1922-1925)	537	54	30	39	28
JOSLIN (1925-1934)	908	60	40	31	21
JOSLIN (1934-1944)	1724	62	50	23	14
HAGEDORN (1934-1944)	2891	64	60	16	10
			65	12	8

CHART I

figures by the Metropolitan Life Insurance Company given at the annual meeting of the American Diabetic Association in Atlantic City in June 1947 by H. H. Marks indicate that the trend is still up. This increase in the average length of life of the diabetic is mainly due to the increase in life span of the young diabetic and the decline in death rate from coma. Before insulin (1922) the average diabetic child lived about two years (Chart 2). Today such children live perhaps 15, 20 or more years. Up to 1914 65% of patients in diabetic coma died (Chart 3), from 1914 to

*Read before the Medical Society of Delaware, Wilmington, October 15, 1948.

**Director of Medicine, Delaware & Memorial Hospitals.

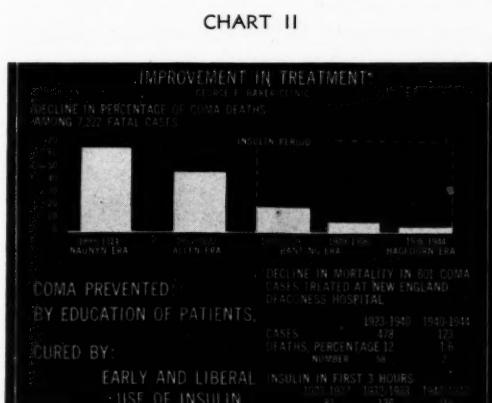


CHART III

fact that treatment is delayed and that insufficient insulin and fluid are given. Insulin resistance is increased every hour the patient remains in acidosis. The metabolic clinic at Duke University has a coma death rate of 18%. This high rate is undoubtedly due to the fact that in such a rural area most of the patients have been in acidosis a long time before ad-

mission to the hospital. Also as Nicholson and Branning¹ have pointed out some patients at first respond to treatment, regain consciousness, the CO₂ combining power returns to normal, the blood sugar drops to a reasonable level, and yet they suddenly become dyspneic and die in collapse from potassium deficiency. It is probably important therefore, especially in cases of diabetic acidosis of long standing, to administer potassium carefully in addition to sodium chloride and glucose.

Diabetics are now able to undergo major surgical procedures and to withstand acute infections with comparative ease. Chemotherapy of course is of tremendous help, but insulin in suitable amounts at the right time is what has given the diabetic almost as good a chance as the non-diabetic in such emergencies.

The number of diabetics in the country is steadily increasing. This is, in part, due to better diagnosis. However, statistics from the Public Health Service, life insurance companies and several large diabetic clinics all indicate that there is a real increase. About 55,000 new cases of diabetes² are recognized annually in the United States; 40,000 die each year. Estimates as to the number of diabetic individuals in the country range from 1 to 2 million. Perhaps 500,000 are at present receiving insulin, and yet in spite of insulin diabetes is now eighth as a cause of death (Table I). This figure does not include many of the patients whose degenerative vascular

it has not yet prevented premature degenerative vascular disease. Arteriosclerosis, coronary artery disease and nephritis are now the major causes of death in diabetes instead of coma. Even in 1935 Joslin's figures (Chart 4) indicated that deaths from coma had dropped

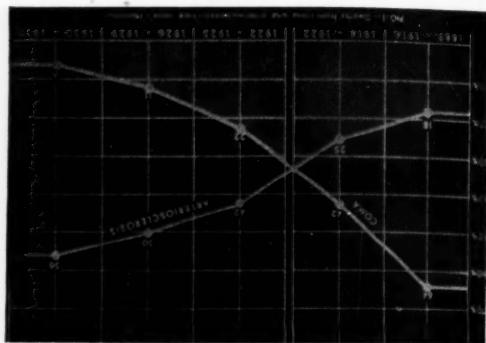


CHART IV

from 64% in 1914 to 8% but that deaths due to arteriosclerosis had increased from 18% to 56%. Root³ called attention to the fact that coronary occlusion occurs in 32% of diabetics and in 6% of non-diabetics and that in the diabetics it was equally divided between males and females where as in non-diabetics the ratio is about five males to one female. Sindoni⁴ reported that of 1579 diabetic deaths at the Philadelphia General Hospital 44.8% were due to arteriosclerosis. On Welfare Island⁵ it was found in 193 diabetic autopsies over 40 years of age that arteriosclerosis was more severe and occurred ten years earlier than in nondiabetics. Other degenerative diabetic abnormalities such as neuritis and neuropathy are of common knowledge⁶. In a survey of 100 diabetic patients who had had diabetes 10 years or a little over at the metabolic clinic of the University of Pennsylvania⁷ a rather low incidence of heart disease was found. In the same group however Leopold⁸ found that superficial retinal hemorrhages increased with duration of the diabetes even under what was considered well-controlled treatment. By this was meant diets containing not more than 80 gms. of fat and when only occasional hyperglycemia or glycosuria was found. In this same group⁹ 46% of the women and 22% of the men had arteriosclerosis of the lower extremities. Laip-

CAUSE	DELAWARE	RANK	UNITED STATES	RANK
Hypertension of the Heart	397.7	(1)	321.5	(2)
Cancers and Other Malignant Tumors	222.7	(2)	133.5	(3)
Intercranial Lesions of Vascular Origin	106.0	(3)	97.9	(4)
Nephritis	103.9	(4)	46.7	(5)
Accidental Deaths	77.4	(5)	72.7	(6)
Pneumonia	59.3	(6)	51.8	(7)
Tuberculosis	38.0	(7)	40.1	(8)
Diabetes	35.2	(8)	26.6	(9)
Premature Birth	23.7	(9)	24.0	(10)
Communicable Diseases Excl. Tuberculosis	21.4	(10)	27.7	(10)

Number of Deaths	Delaware 1945	United States 1945	Number of Deaths	
			Delaware 1945	United States 1945
Acute Malaria Fever	4	1341		
Tuberculosis	102	32914		
Cancers	314	177654		
Diabetes	106	39160		
Poliomyelitis	2	1186		

TABLE I

disease of which they died was caused or precipitated by diabetes. It has become very clear that although insulin may have prolonged life

ply¹⁰ among others indicated that the condition known as intercapillary glomerular sclerosis (Kimmelstiel-Wilson syndrome) is the one almost pathognomonic pathological finding in diabetes. It was present in 63.7% of diabetic autopsies. Hyalinization of the islet cells was found in 63.1%. However in non-diabetics glomerular sclerosis is found only in 2.4%, islet hyalinization in 13%.

The development of degenerative vascular disease in the juvenile diabetic is particularly striking. Eisele¹¹ reported a study of 73 cases in 1942 all of whom had had diabetes in March 1922 when insulin was first available. No mention of the diet was made. 35% had large livers, 30% had arteriosclerosis by x-ray of extremities, 55% had retinopathy and 70% had either retinal or peripheral vascular damage. How much the pre-insulin therapy and the high fat diet in the early insulin era were responsible for the results in this series can only be conjectured. O'Brien and Allen¹² found that 4% of diabetics under 31 had the same type of ocular changes as old diabetics. Wagener¹³ found that duration of the diabetes is a much more important factor than is the age of the patient as indicated by his findings that among patients less than thirty years of age who had had diabetes for more than 10 years, 76 per cent had retinopathy while among patients more than thirty years of age who had had diabetes for more than 10 years, only 64 per cent had retinopathy. In a recent article Dolger¹⁴ has given an account of a series of juvenile patients apparently carefully followed for 20 years. As indicated in Table II

TABLE I.—Relation of Diabetic Control to Vascular Damage in Fifty-Five Juvenile Patients							
Diabetic Control	No. of Patients	Onset of Retinal Hemorrhage					
		Average Duration of Diabetes, Yrs.	Patients with Hyper-tension	Patients with Albuminuria	Patients with Vascular Calcification	Patients Subsequently Blind	Patients Subsequently Partially Blind
Excellent.....	20	13.0	10	6	3	1	
Fair.....	18	10.4	6	7	9	2	
Poor.....	17	12.4	7	11	2	2	

TABLE II — DOLGER

the onset of punctate retinal hemorrhages occurred on an average at almost the same duration of the disease (10-13 years) in the three groups studied—(1) termed excellent diabetic

control, (2) fair control, and (3) poor control. Five patients became totally blind. By excellent control was meant the following of a moderately high protein diet, moderately high carbohydrate diet with fat about 70 or 80 gms. Only occasional glycosuria occurred. No mention was made of the blood sugar. 27 of 200 diabetic patients of all ages became blind, many within a year after the appearance of retinal hemorrhage. Not 1 of 200 patients, followed 25 years, escaped retinal hemorrhage. 55% of these first showing retinal hemorrhage also had hypertension and albuminuria.

If this report should represent a correct state of affairs, we must conclude either that the diabetic control called excellent is not good enough or that there is some fundamental factor in diabetic degeneration other than hyperglycemia. Other investigators and clinicians still feel that good diabetic control postpones or retards the onset of degenerative vascular disease. Ricketts¹⁵ has marshalled many facts to show that constant hyperglycemia hastens degeneration. He mentions that in dogs it causes irreversible diabetes. After several days of continuous intravenous glucose hemorrhages occur in the anterior pituitary, pancreas and adrenal cortex. Cats became permanently diabetic from intraperitoneal injections of glucose. Anterior pituitary extract induces canine diabetes when the animals are well fed. The more carbohydrate in the diet the more damage to the islet cells. Lukens and Dohan¹⁶ produced diabetes in partially depancreatized cats by injection of anterior pituitary extract and demonstrated recovery following insulin or following a low carbohydrate diet. However continued pituitary injections caused permanent irreversible islet beta cell damage. Boyd, Jackson and Allen¹⁷ reported that 69 out of 250 diabetic children showed certain abnormalities. Twelve were dwarfs, eleven were retarded in reaching maturity, six had retinal hemorrhage, six cataracts and twenty had minor subcapsular capacities, six had large livers, and a goodly number had persistently carious teeth. These findings did not occur to any significant degree in cases under good control. Jackson and Kelly¹⁸ in reviewing records of 134 diabetic children showed very definitely that those under good control had prac-

tically normal growth curves as contrasted with poor growth in those under poor control.

Palmer¹⁹ stated that if a sufficiently large group of diabetic patients are observed over a sufficiently long period, those under so-called adequate control will be found to suffer less degenerative change.

Recently we have re-examined seventeen patients whose diabetes began before the age of twenty years. Two of them were not under our care and had severe very poorly controlled diabetes of five years duration. One had glomerular nephritis and the other bilateral cataracts. The remaining 15 cases all moderately severe and some very severe have been followed for nearly the entire duration of their disease, four to twenty-two years (Table III).

JUVENILE DIABETES - 1947										
Case	Sex	Age	Days Duration	Age Onset	Daily Insulin	Control I. S.	X-ray	Kidneys	Retinae	Notes
1. J.Z.	M	5	10	60	7			0		
2. E.E.	F	29	9	7						Blind, Deaf, Glau., Ret. followed.
3. R.B.	M	6	26	0				0		
4. R.C.	F	6	12	80	7	0		0		
5. R.C.	F	6	17	80	7	0		0		
6. P.S.	M	8	75	75	7	0		0		
7. J.S.	M	10	20	27	P	0		0		
8. J.S.	M	10	20	27	P	0		0		Prepat.
9. R.S.	M	12	2	27	P	0		0		
10. R.S.	M	12	15	20	P	0		0		
11. R.S.	M	12	20	40	P	0		0		Superf. T. Ret.
12. R.S.	M	16	7	60	P	0		0		
13. L.W.	M	18	35	38	G	0		0		
14. L.W.	M	20	4	60	G to P	0		0		One Child
15. L.W.	M	20	5	60	P	0		0		One Child
16. C.R.	F	20	5	60	P	0		0		Occasional punctate R.
17. C.R.	F	22	13	42	P to G			0		Punctate R.
Average Duration Diabetes in the Four Patients Developing Degenerative Disease is 16 years										

*TABLE III

*Ophthalmoscopic examinations were made by Dr. N. Cutler, Director of Ophthalmology and Vascular X-rays by Dr. W. W. Lattomus, Director of Roentgenology at the Delaware Hospital.

Only four have so far developed signs of degenerative disease. Case 4, a boy of 15 with an eight-year duration who has been only fairly well controlled on 80 units of insulin a day, shows very slight x-ray signs of sclerosis of the posterior tibial arteries. Case 8, a 27-year-old negro with a twelve-year duration, has never followed a prescribed diet, takes 80 units of insulin a day and has always been under very poor control except when hospitalized. He shows superficial retinal hemorrhages. The two other cases, No. 14 and No. 15, are females whose disease is of 20 to 22 years' duration. The former has definitely sclerosed posterior

tibial arteries by x-ray (Plate I), has had an occasional punctate retinal hemorrhage, has pyelonephritis and has had two normal babies. She was never well controlled. Case No. 15 has been under fairly good control, but at present has symptomless but typical diabetic retinitis. The average duration of the disease of the four patients who have developed signs of degenerative disease is 16 years. This is a more encouraging figure than most of those found in the literature.

A brief summary of the four main theories of the pathogenesis of diabetes may be of interest. They are (1) Primary pancreatic insufficiency, (2) Soskin's Homeostatic Liver Theory, (3) Himsworth's tissue utilization theory and (4) Cori and Stetten's Hexokinase

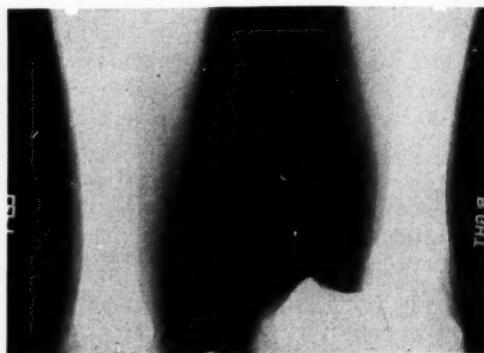


PLATE I
X-ray showing sclerosed arteries of lower leg in case No. 14.

theory. The oldest and at least until recently the most widely accepted theory of the cause of diabetes was primary pancreatic islet cell insufficiency. Mirsky²⁰ has concluded that this must be merely a secondary factor. He pointed out that Whipple and others have shown that resection of the entire pancreas in man produces only a relatively mild form of diabetes which is usually controlled with small dosage of insulin. Soskin²¹ demonstrated that additional insulin from the islet cells is not needed to produce a normal glucose tolerance curve in depancreatized dogs in normal balance on a constant insulin dosage. When this experiment was reversed, the pancreas left intact and a maintenance dose of sugar given, a glucose tolerance test gave a typical diabetic

curve. Soskin then developed the liver homeostatic theory of carbohydrate regulation. Each individual has his own thermostatic glucose level. Sugar is released or stored by the liver according to whether the blood sugar rises above or falls below the individual's own thermostatic level. Hormone affects may play a part especially those of the anterior pituitary and adrenal cortex. The actual cause of diabetes by this theory remains unanswered, but it is suggested that there may be more than one type such as pituitary, adrenal cortical, thyroid and pancreatic. In all there is insulin deficiency. In all hyperglycemia prevails. Himsworth²² argues that the liver releases or stores sugar, not because of its own thermostatic mechanism, but because of the utilization factor of carbohydrate in the body tissues. He feels that this is a fine trigger mechanism and is based upon a head of pressure represented by the blood sugar. When the tissues need sugar the liver immediately releases sugar. Insulin enables the tissues to utilize the sugar. If there is insufficient insulin due to primary or secondary pancreatic insufficiency, more sugar is released to increase the head of pressure in an attempt to compensate. To some degree this compensation may succeed in diabetes and diabetes may be better off with a blood sugar a little higher than normal. The object of this sensitive mechanism may be to insure an adequate sugar supply to the central nervous system. The anterior pituitary plays an active role in release of sugar and may act directly on the liver. Cori²³ has indicated that there is an enzyme, hexokinase, which hydrolyzes glycogen in the liver and that this enzyme is influenced by insulin, epinephrine, adrenal cortical hormone and anterior pituitary hormone. Stetten²⁴ with further experimentation has suggested that this enzyme, hexokinase, may be the common denominator in solving the confusing problem of carbohydrate metabolism. He has indicated the several steps of glucose metabolism. Glucose is converted to glucose-6-phosphate by hexokinase present in the liver and all tissue cells. This process is activated by insulin, apparently by neutralizing the inhibiting effect of the anterior pituitary and adreno-cortical hormones. Insufficient insulin produces the condition known as diabetes. The main objection to this

theory as being the only method of carbohydrate regulation is the Houssay phenomenon. Here the pituitary is removed in a depancreasitized animal, and there is no pituitary hormone for insulin to neutralize. It must therefore be assumed but not yet proved that insulin acts or may act directly on the hexokinase.

At present from a practical point of view it should be kept in mind that several endocrine glands play a part in the diabetic state and that eventually we may be able to recognize a pituitary diabetes, a thyroid diabetes, an adreno-cortical, pancreatic and possibly a liver diabetes. The evidence to date points to the fact that sooner or later there will be islet beta cell damage if the disease lasts long enough, is severe enough and if hyperglycemia persists. Whether this prolonged hyperglycemia is the cause of degenerative vascular disease is not yet proven, but the evidence suggests it. It will take perhaps another ten years to determine whether the advocates²⁵ of unrestricted diet short of acidosis and discomfort are right in their hypothesis that elevated blood sugar is of no consequence in the treatment of diabetes. Therefore it may not be too dogmatic to say that a patient, especially a child, if treated adequately in the early stage of the disease will have less hyperglycemia, will sustain less islet cell damage and will have less severe diabetes in the future than if such treatment is delayed. Allow the hyperglycemia to continue even in the absence of symptoms and the onset of degenerative disease may be hastened! The majority of diabetic specialists feel that the diet of choice is moderately high protein and carbohydrate, low fat and total calories sufficient to maintain appropriate weight. This diet was not possible before insulin and only slowly was adopted after insulin. Whether high fat diets play a part in causing arteriosclerosis in the diabetic is not yet clear. Wilder²⁶ feels that the evidence is not convincing. Joslin²⁷ and his co-workers, Sansom and others, feel that dietary fat does play a significant part. There are no statistics available for a 20-year survey of low fat diets. The juvenile cases referred to above even in the last five or ten years ate diets containing perhaps as much as 80 gms. of fat.

In an attempt to keep the blood sugar level as nearly normal as constantly as possible real

harm may be done because of hypoglycemia. Severe hypoglycemia attacks, many of them bizarre in their symptomatology, not only tend to frighten the patient and discourage careful control of the disease, but may be dangerous. Occasionally such reactions are irreversible in their effect on the brain. Deaths following insulin shock therapy have been reported. Automobile and other traffic accidents may be due to insulin reactions. A sudden drop in the blood sugar may cause coronary accidents. Gilbert and Goldzieher²⁸ have demonstrated this danger in electrocardiographic experiments on patients. As a result of 30 units of insulin given intravenously there developed moderate elevation of the S-T segment and T wave changes. Adrenalin produced identical results. Prostigmin given with insulin produced no change and glucose given with insulin produced no change. It is important therefore to avoid hypoglycemic reactions. Reactions from protamin zinc insulin last longer, are more insidious in onset, and may be more serious than those due to the quicker acting insulins. It may be safer, patients may feel better, to allow the blood sugar to rise to 170 to 200 mg.% after meals. According to Himsworth²² this may be a desirable compensating hyperglycemia. Unfortunately for the majority of patients this postprandial rise is not accurately checked and is allowed to rise far above 200 mg.% and may be a major factor in precipitating degenerative disease.

Many mild diabetics have normal fasting blood sugars. It is suggested therefore that routine blood sugar determinations be made 1½ to 2 hours after a meal. A clinical experiment by Sindoni⁴ as seen in Table IV exemplifies this point. Recently Wilkerson²⁸ reported an interesting survey in a small New England community. The local medical society co-operated with the U. S. Public Health Service. 60% of the population volunteered. Blood sugar determination and urinalyses were made 1½ hours after the noon meal. The result of the experiment revealed just twice as many diabetics as were previously known. By analogy there may be twice as many diabetics in Delaware and in the United States than are now known. Early adequate treatment may change the present statistics in that fewer patients may develop degenerative vas-

cular disease. It will take time, perhaps 20 years, to prove this concept, but what a boon to humanity if true! The advocates of unrestricted diet and unrestricted hyperglycemia have also a case to prove. No treatment pre-

TABLE VII						
Blood Sugar Levels mg/100 cc.						
104 Cases Before meal (fasting) and 2 hours after meal (post-prandial)						
Fast.	2 hrs.	Fast.	2 hrs.	Fast.	2 hrs.	Fast.
199	250	122	244	112	193	116
123	216	118	192	115	183	188
60	174	91	186	113	183	150
136	192	126	244	135	195	113
114	226	112	193	114	170	139
122	192	104	230	184	340	162
130	204	137	300	117	200	82
160	198	153	248	157	183	112
137	290	98	204	153	240	150
178	360	122	210	116	192	182
102	224	98	204	118	284	173
103	183	176	222	129	190	96
120	230	122	210	131	262	107
127	190	150	240	100	204	123
77	224	94	270	140	210	105
102	220	170	270	135	188	120
140	193	104	250	55	264	60
157	250	153	197	122	210	66
74	169	157	300	91	186	118
176	260	153	248	166	193	142
166	224	166	220	163	230	122
170	272	154	280	178	266	130
169	308	93	240	171	220	130
100	204	158	192	56	172	120
131	262	126	244	180	236	127
135	195	166	280	131	180	102
						224

TABLE IV — SINDONI

vents blindness when diabetic retinitis once starts. Why not try harder to prevent the retinitis?

TEN DIABETIC APHORISMS

1. Take post-prandial blood sugars to facilitate early diagnosis of diabetes.
2. Endeavor to overcome the stigma of diabetes and try to make the diabetic a happy and useful citizen.
3. Prescribe a low fat, moderately high protein and moderately high carbohydrate diet with total calories limited to the requirements of the individual patient.
4. Keep the patient as free as possible from glycosuria and keep the blood sugar as nearly normal as possible with perhaps a post-prandial rise between 150 and 200 mgs.%
5. Avoid unnecessary blood sugar determinations. They are seldom necessary when there is glycosuria. They are important when the urine shows little or no sugar.
6. Remember that diabetic acidosis is an extreme hospital emergency.
7. Avoid insulin reactions.

8. Be constantly on the watch for evidence of degenerative vascular disease of which 65% of present-day diabetics die and which the procedures mentioned above may retard but probably not prevent.
9. Be encouraged by the fact that the average length of life of the diabetic is still increasing each year.
10. Although recent research and investigations now under way suggest that there may be more than one type of diabetes and that perhaps there may be some other as yet unidentified fundamental disturbance causing degenerative changes—remember that at present in treating diabetes control of the hyperglycemia is paramount—give insulin properly and too early rather than too late.

REFERENCES

1. Nicholson, W. M. and Branning, W. S.: Potassium Deficiency in Diabetic Acidosis, *J. A. M. A.*, 134: 1292-1294, 1947.
2. Marks, H. H.: Recent Statistics on Diabetes and Diabetes, *M. Clin. N. Amer.*, March, 1947.
3. Root, H. F., Bland, E. P., Gordon, W. H., and White, P. D.: Coronary Arteriosclerosis in Diabetes Mellitus, *J. A. M. A.*, 113: 27, 1939.
4. Sindoni, A. J.: Fasting Blood Sugar vs. Post-prandial Blood Sugar as Observed in Normal Individuals, Medical (non-diabetic) Patients and Patients with Diabetes, *Amer. J. Dig. Dis.*, 13: 178-192, 1946.
5. Lisa, J. R., Magiday, M., Galloway, I., and Hart, J. F.: Arteriosclerosis with Diabetes Mellitus, *J. A. M. A.*, 120: 192-195, 1942.
6. Jordan, W. R.: Neurotic Manifestations in Diabetes Mellitus, *Arch. Int. Med.*, 57: 306-360, Feb. 1936.
- deTakats, G.: The Peripheral Neuropathic Lesions in Diabetes, *Proc. Amer. Diab. Ass'n.* 5: 183-199, 1945.
7. Ederkin, Joseph: Diabetes Mellitus as Observed in 100 Cases for 10 or More Years, *Am. J. Med. Sci.*, 209: 8-16, 1945.
8. Leopold, I. H.: Diabetes Mellitus as Observed in 100 Cases for 10 or More Years—Ocular Findings, *Am. J. Med. Sci.*, 209: 16-23, 1945.
9. Meyer, Naide: Peripheral Vascular Disease in 89 Cases Diabetes Mellitus for 10 or More Years, *Am. J. Med. Sci.*, 209: 1945.
10. Laipply, T. C.: Eitzen, O., and Dutra, F. R.: Inter-capillary Glomerulosclerosis *Arch. Int. Med.*, 74: 354-364, Nov. 1944.
11. Eisele, H. E.: The Juvenile Diabetic Patient Surviving Twenty Years, *J. A. M. A.*, 120: 188-190, 1942.
12. O'Brien, C. S. and Allen, J. H.: Ocular Changes in Young Diabetic Patients, *J. A. M. A.*, 120: 190-192, 1942.
13. Wagner, H. P.: Retinopathy in Diabetes Mellitus, *Proc. Amer. Diab. Ass'n.*, 5: 203-216, 1945.
14. Dolger, Henry: Clinical Evaluation of Vascular Damage in Diabetes Mellitus, *J. A. M. A.*, 134: 1289-1291, 1947.
15. Ricketts, H. T.: Does Hyperglycemia Harm the Diabetic Patient?, *M. Clin. N. Amer.* 31: 267-277, 1947.
16. Lukens, F. D. W. and Dohan, F. C.: Pituitary Diabetes in the Cat: Recovery Following Insulin and Dietary Treatment, *Endocrinology*, 30: 175, 1942; also *Science*, 1946.
17. Boyd, J. D., Jackson, R. L. and Allen, J. H.: Avoidance of Degenerative Lesions in Diabetes Mellitus, *J. A. M. A.*, 118: 694-696, 1942.
18. Jackson, R., Laird, Kelly, H. G.: Growth of Children with Diabetes Mellitus in Relationship to Level of Control of the Disease, *J. Pediat.* 29: 316, 1946.
19. Palmer, L. J.: Insulin in the Treatment of Diabetes Mellitus, *J. A. M. A.*, 132: 502-507, 1946.
20. Mirsky, I. A.: The Cause of Diabetes in Man, *Am. J. Digest. Dis.*, 13: 170, 1946.
21. Soskin, S.: Role of the Endocrines in the Regulation of Blood Sugar, *J. Clin. Endocrin.* 4: 75-88, 1944.
22. Himsworth, H. P.: The Mechanism of Diabetes Mellitus, *Lancet*, 2: 118-122, 1939.

23. Price, W. H., Cori, C. F. and Colowick, S. P.: Effect of Ant. Pituitary Extract and of Insulin on Hexokinase Reaction, *J. Biol. Chem.*, 160: 633-634, Oct., 1945.
24. Stetten, DeWitt, Jr.: The Endocrine Regulation of Carbohydrate Metabolism, *J. A. M. A.*, 132: 373-375, Oct. 1946.
25. Tolstoi, E.: Newer Concepts in the Treatment of Diabetes Mellitus with Protamine Insulin, *Am. J. Dig. Dis.*, 10: 247-253, 1943.
26. Wilder, R. M. and Wilbur, D. L.: Diseases of Metabolism and Nutrition—Review of Certain Recent Contributions, *Arch. Int. Med.*, 57: 422, Feb. 1936.
27. Joslin, E. P.: The Treatment of Diabetes Mellitus, *Lea and Febiger*.
28. Gilbert, R. H. and Goldziehler, J. W.: The Mechanism and Prevention of Cardiovascular Changes due to Insulin, *Ann. Int. Med.* 25: 928-940, 1946.
29. Wilkerson, H. L. C.: American Diabetic Association Meeting, 1947. American Diabetic Association Diabetes in a New England Town, *J. A. M. A.*, 135: 209-216, 1947.

DISCUSSION

DR. J. M. BARSKY (Wilmington): First I want to congratulate Dr. Flinn on his very interesting paper on which he has undoubtedly spent a great deal of time.

The remarks he made can only be reiterated time and time again. It was of particular interest to note that he said in twenty years we will probably get the result of what we are doing today with a change in our diet. When insulin was first discovered in the '20's you may remember they had low carbohydrates and low fat diet. There is a possible chance twenty years later we are getting the result of that high fat diet in the vascular degeneration we are having today.

In the experiment which he mentioned in the New England town the result showed that two per cent of the population of the United States is afflicted with diabetes. That again is another revision upward of incidence of diabetes in the United States. We have increased, it is true, the life span in the diabetic. Possibly, therefore, we are now seeing vascular changes which we were not aware of in previous decades. However, the increase in the life span is mainly due to the increase in the life span of the child, which was formerly doomed to death.

I would like to emphasize again that most authorities agree that the length of time of the duration of diabetes is the predominating factor, not the severity of it, in the amount of insulin required to control. Proper care, proper diet, proper administration of insulin are still of paramount importance. What the end result is, we cannot tell. Is there a ferment in the pancreas that is affected and is not thrown into the blood stream? Is the pancreatic concept a result and not a cause of

diabetes? All these things are now being investigated to try to answer in the future the whys and wherefores of this disease which is becoming one of the main killers, not through itself but through the complications, to reach the point Dr. Flinn has shown you, that it ranks eighth in the killers of this country.

I wish to again congratulate Dr. Flinn on a most excellent paper.

DR. H. S. RIGGIN (Seaford): I would like to ask Dr. Flinn if nervous strain and severe nervous shock causes any condition that in turn causes diabetes?

DR. FLINN: I doubt very much if it causes diabetes, but it certainly can aggravate a case of diabetes to cause hyperglykemia and a borderline control may throw the patient out of control.

**RE: POLIOMYELITIS
IN DELAWARE, 1947**

A. PARKER HITCHENS, M. D.*

Wilmington, Del.

The preventive aspects of a communicable disease far outweigh its clinical implications especially when there is no rapid laboratory test for diagnosis and no dependable therapeutic measure available for treatment of the malady in question.

Argument upon this basic fact is futile when, in addition, we know little about the etiologic agent and its vectors or its modes of transmission.

This is the important lesson which, surprisingly enough, needs "to be learned" and "put down in the book and memorized."‡

The "epidemic" of infantile paralysis which began "raging" in our community on July twenty-third illustrates this lesson. When the family doctor, upon examination of the first two patients found enough evidence to make him suspect he was dealing with poliomyelitis, he called in the chief of service at the local communicable diseases hospital. The diagnosis was confirmed, necessarily upon clinical evidence alone. The management and treatment of these patients, in the hospital, would scarcely have been different even if no name at all had been used as the admitting diagnosis.

Careful, unbiased, study of every patient admitted—up to the present—subject to admission, in consultation and on the basis of laboratory tests for other possible infections, revealed, in a few cases, a different, and specific etiologic agent. This was accepted as eliminating the possible participation of poliomyelitis virus. With regard to one fatal case, finally called meningoeoecus meningitis, laboratory studies are being continued to determine whether or not there was actually an initial or participating virus infection.

One difference between this and previous local outbreaks soon became conspicuous. Heretofore it had been unusual to find more than one case in a family; this year, two or more cases in one household were being reported in greater proportion. This difference might be significant; its actual basis could be discovered only through laboratory studies such as could not be made locally. In the language of "tobacco mosaic" or that of influenza, for illustration, we might be dealing this year with a "Strain B," whereas, in previous years, the "Strain A" had been more common. In any case, we needed scientific aid and on August 14, 1947, a long-distance call was made to the headquarters of the National Foundation for Infantile Paralysis. Of course, they responded immediately and in due time the results of Dr. Robert Ward's studies will be revealed to us.

Not many days later, (on August 19, 1947), the privilege was offered to the Board of Health, of having this area used by a technical unit of the United States Public Health Service to study the practical importance of flies in the transmission of poliomyelitis. The offer was accepted without hesitation by the President of the Board of Health and the unit arrived here the following morning.

An essential factor in any such study is the exact nature and identity of the causative agent for which the flies might be the vector. Therefore, a medical officer of the service and member of the unit, Dr. Ralph Paffenbarger, skilled in the clinical study of virus infections, took up quarters in the Doris Memorial Hospital. From the time of his arrival he examined, thoroughly and without delay, every patient admitted. He sent to the virus labora-

*Health Commissioner, City of Wilmington, Chief, Department of Epidemiology, Wilmington General Hospital. [Cf. Editorial, THE JOURNAL, September, 1947.]

tory in Montgomery, Alabama, for the careful study and eventual report, the following specimens:

Sera:	
Acute cases	39
Convalescent cases	33
Stools:	
Acute cases	31
Convalescent cases	7
Nasopharyngeal washings	45
Spinal fluids	26
Whole blood from possible cases of lymphocytic choriomeningitis ..	3
Autopsy specimens from meningitis patient	1

On August 27, Dr. Joseph L. Melnick of the Virus Laboratory, Yale University Medical School, visited Wilmington, chiefly to obtain specimens of feces from poliomyelitis patients. This material he intended to use as a source of virus needed for a current research problem. He notified us on September 18, that the pooled fecal specimens from 3 patients had caused poliomyelitis in one of his monkeys. The following had been sent to Dr. Melnick for study:

Approximately—50 birds.

Pooled stool specimens from approximately 35 patients.

Pooled spinal fluids from approximately 12 patients.

It was through the kindness of Dr. Paffenbarger that the pooled fecal specimens were prepared and shipped to Dr. Melnick.

Furthermore, Superintendent of Public Safety Andrew J. Kavanaugh very kindly arranged to have Sergeant Leonard Hamilton procure 50 birds of various kinds for shipment to Dr. Melnick. It is well known that certain birds are carriers of diseases very fatal to man, e. g., psittacosis. It is also known that certain birds are eaters of flies; now, if they should eat infected flies they might be a means of spreading infectious material. Birds are also infected with mites and other insect pests. Species of mites are known to be carriers of scrub-typhus (tsutsugamushi) and rickettsial pox. The latter disease has only recently been discovered. It is safe to predict that our knowledge of the number and identity of virus and rickettsial diseases is by no means complete.

As a result of the visit to Doris Memorial Hospital, of Dr. Joseph Stokes, Jr., Professor of Pediatrics at the University of Pennsylvania School of Medicine and Director of the Children's Hospital, of Philadelphia, we learned that certain of the leading virus experts of the country are suspecting that there are two causative agents, and not one only, involved in this year's outbreak of infantile paralysis. Research upon this point is being carried on, especially in connection with the Akron, Ohio, epidemic. Possibly there are more than two; laboratory research, only, can give us the answer.

At one time, we thought typhoid fever was a single clinical entity. As a result of laboratory studies, paratyphoid A, and paratyphoid B were identified. There are at least 3 species of the brucella or undulant fever bacillus; there are more than 50 types of the pneumococcus. Virus studies have revealed the existence of types or strains differing among themselves as members of a group.

Last year, a disease, not heretofore identified, which had some of the early symptoms common to infantile paralysis and several other diseases, was discovered in a rural county of Tennessee. So far, it has been given no other name than Giles County malady.

Contemplation of these developments and additions to our knowledge of the etiology and epidemiology of communicable diseases can scarcely justify disagreements with regard to diagnosis upon the basis of clinical study alone. The opinion of one alert physician, devoted to the welfare of his patients and to the community, supported by consultants of his own choosing, is likely to be, at least, equal to that of a committee.

Furthermore, when all the scientific facts, resulting from the management of this outbreak, of whatever it may prove to have been, have been assembled and assimilated, the conclusion will be plain: that no previous summer and fall epidemic disease resembling infantile paralysis, and occurring here, has been studied with equal care.

The statement that "the initial branding"—as "actual polio every suspicious case"—"created a hysteroid atmosphere here at home, and one of great apprehension abroad" is a deduction almost certainly in error. The

"hysteroid atmosphere" is much more likely to have been created by the very first recognition, by local residents of the actual state of environmental sanitation in their city. Getting the people to look *and see*—and not merely *look*—is one of the stereotyped techniques of public health education.

There seems to be scientific evidence to support the hypothesis that the virus of infantile paralysis is harbored in the intestinal waste of cases and carriers. This would mean that open privies and sewers might be centers from which the virus could be disseminated to susceptible persons by direct contact, by flies, by polluted hands and vessels, on dust or fly contaminated food, and by innumerable ways.

With these matters the people of Wilmington are now acquainted and they will not forget. They will be satisfied only by remedial sanitary engineering. They know "there will be another year and perhaps another epidemic!"—unless and until —?

This is the lesson, it has been learned—here is the achievement in public health education. Only those persons who are seriously working for the advancement of preventive medicine locally will realize to how great an extent our misfortune of 1947 has been transmuted into an achievement.

THE WILMINGTON BOARD OF HEALTH AND THE RAPID TREAT- MENT CENTERS FOR SYPHILIS

GEORGE J. BOINES, M. D.*

Wilmington, Del.

The Wilmington Board of Health received its powers as an organized Health Board on May 26, 1945, when the City Council adopted the City Sanitary Code. The sanitary code powers were further augmented by the Delaware State Legislature, at its 1947 session, when it enacted House Bill No. 335, (amending Chapter 25, as amended, Revised Code of Delaware 1935), which provides that "municipalities and local public health officials shall have the power and authority, with the consent and approval of the State Board of Health, to adopt such ordinances or regulations in addition to such regulations of the State Board of Health as shall be consistent with the law and the purposes set forth in this sec-

tion." The State Board of Health gave its "consent and approval" to the sanitary code of Wilmington at its regular meeting on June 22, 1947. Thus the Wilmington City Board of Health was given power to enact and enforce regulations which, for practical purposes, may in some ways differ from the State regulations.

The foregoing provide, briefly, the foundation for and the history of the Wilmington Department of Health and the authority under which the Board and its appointed officials function.

The duties of the Board of Health are outlined under two broad headings:

1. To prevent and control the spread of all diseases that are dangerous to the public health; and
2. To protect and promote the public health generally and to enforce all of the laws and ordinances pertaining to the public health.

In carrying out its duties the City Board of Health has established a policy of cooperation with the medical, dental, and nursing professions. The Board has repeatedly stated that its policy has been to work in cooperation with and not in competition with any health or medical agency.

The Department of Health is one of the important units in the city government. The medical profession is not only vitally concerned in its activities but is also very eager to cooperate in its efforts to apply the science of preventive medicine to every member of our community. The present structure of the local Health Board is made up of the following personnel: The "Board" consists of four citizens appointed by the Mayor and Council of Wilmington—two physicians, a business man, and a master plumber. A health commissioner who is a qualified public health physician working on a fulltime basis is responsible to the Board. An executive secretary, a lay business man, is in charge of the office, of vital statistics, and of the collection of garbage. The other personnel consists of one bacteriologist, one laboratory technician in charge of milk, cream, and other examinations, one laboratory assistant; one supervising nurse and three staff nurses, one dairy inspector, one milk inspector, one meat inspector,

*President, Wilmington City Board of Health.

six sanitary inspectors, one chief clerk, one secretary to the commissioner, one stenographer, and two clerk typists. The Board has funds available to employ physicians to carry out vaccinations and immunizations in schools or in emergencies for the general population. Three city physicians are on the payroll for the care of the medieally indigent. When additional public health nursing services are needed, the experienced local Visiting Nurse Association is available and employed. As the local Board takes over more responsibility its personnel will be gradually increased to the number necessary for a modern, local, full-time health department.

Before the adoption of the Sanitary Code and the employment of a City Health Commissioner, practically all of the health activities for the city of Wilmington were being carried out by the State Board of Health. Some of the activities are still under the jurisdiction of the State, but the city is gradually taking over all health services so that, with the cooperation of the State Board of Health, the city will assume full responsibility for all health activities within the city.

Two of the most important principles that the local health board strives to promote are, first, Health Education, and second, Disease Prevention. Dr. Wilson G. Smillie, in his excellent text book on, Preventive Medicine and Public Health (pp. 364, 492), gives us two quotations from Lemuel Shattuck which outline the modern concept of public health:

"The great object of sanitary science is to teach people the causes of disease,—how to remove or avoid these causes,—how to prevent disease,—how to live without being sick,—how to increase the vital force,—how to avoid premature decay. And one of the most useful reforms which could be introduced into the present constitution of society would be, that the advice of the physician should be sought for and paid for while in health, to keep the patient well; and not, as now, while in sickness, to cure disease, which might in most cases have been avoided or prevented."

"It is the duty of the State to extend over the people its guardian care, that those who cannot or will not protect themselves, may nevertheless be protected; and that those who can and desire to do it, may have the means

of doing it more easily. This right and authority should be exercised by wise laws, wisely administered; and when this is neglected the State should be held answerable for the consequences of this neglect."

The present city health program includes the following phases: 1. Sanitation; 2. Vital statistics; 3. Communicable disease control; 4. Tuberculosis control; and 5. Venereal disease control.

In sanitation, the program of sewer survey started last summer in an effort to control the poliomyelitis epidemic should be remembered. A general survey in the city revealed that there were 437 homes with outside open pit privies. Of these, 258 properties had sewers adjacent. Since April 1, 1947, 200 have connected with the sewers and the others are in process of doing so. There are 179 properties which have no adjacent sewers, and for these homes, arrangements are being made by the Street and Sewer Department to have adjacent sewers installed before next summer arrives. The sewer survey also emphasized the existence of a large number of open sewers which empty into the Brandywine and the Christina rivers which flow thru the city. As a result of these unsanitary sewer conditions, the city has taken active steps to build sewage disposal and treatment plants. Thus far the epidemiological studies tend to show that the poliomyelitis outbreak of 1947 had its beginnings with children who were playing in one of the open sewers, and a small typhoid fever outbreak was traced to a child swimming in water where a sewer which was draining the home of a typhoid carrier, was emptying.

Among other duties of sanitation, the local health board takes care of collections and disposal of garbage; has prohibited the dumping within the city limits, and arrangements have been made to carry all burnable material to the city incinerator. Inspectors make systematic inspections and enforce sanitation in (1) eating establishments, (2) grocery stores, (3) dairy farms, (4) housing, (5) theatres, (6) comfort stations, (7) nursing homes, (8) alleys and yards, (9) curbstone markets, (10) dairies, (11) ice cream and soft drink establishments, (12) swimming pools, (13) eradication of weeds, and arrange that (14) outside water supply shall be gradually elim-

inated at homes. Rat control is done in the city dumps, and, when requested by the tenants, in homes. A large variety of health nuisance complaints are investigated and corrected.

The city health board nurses perform a variety of duties such as health education, follow contacts of reported communicable disease patients, do physical examinations in the colored schools, take blood tests from all food handlers before they are given a health card, follow up venereal disease contacts and delinquents, et cetera.

The laboratory does Mazzini and Kahn serologic tests on blood taken from prospective food handlers and many preemployment industry workers, tests sputum for sanatoria and private physicians, tests all the milk for the city, and performs a variety of other laboratory examinations for indigent patients.

Vital statistics are kept, analyzed, and filed by the local board.

In communicable disease control, the Board attempts to enforce the quarantine regulations whenever a physician reports a communicable disease. Immunization clinics have been established, and immunization in the public and parochial schools is being done. In 1947, about 3,000 public school and 1,500 parochial school children were immunized against diphtheria and pertussis. About 10,000 school children were vaccinated for small pox in 1947. Immunization material is being supplied to the hospitals and physicians gratis, through the cooperation of the State Board of Health which made the material available to the local board.

The progress in tuberculosis control is very encouraging. The State sanatoria have been very cooperative in making room for all active cases as they are discovered. Plans are in progress to conduct a mass x-ray survey by the United States Public Health Service. Every year all food handlers are requested to have a chest x-ray before they are given a health card. This survey is conducted by the State Board of Health Mobile Unit with the cooperation of the Delaware Anti-Tuberculosis Society. A number of new cases are discovered each year; positive findings are revealed exclusively to the family doctor. This year the Delaware Anti-Tuberculosis Society has

completed the installation of x-ray equipment in its building on Delaware Avenue. This machine will be used all the year for the pre-employment x-ray of food handlers and other cases referred by physicians. Tuberculosis still causes more deaths between the ages of 15 and 45 than any other disease. In 1946 there were 125 deaths from tuberculosis in the State of Delaware; 62 of these were in Wilmington; 36 persons were white and 26 colored. Generally speaking, the T. B. death rate for Delaware has been increasing since 1943, whereas the national death rate has been decreasing. The Delaware death rate for 1946 was higher than the national rate. It is thus evident that a great deal of work has to be done by the local health board in cooperation with the physicians and all health agencies to see that every effort is put forth to find and report every case as soon as possible. According to authorities on tuberculosis there are nine active and nine arrested cases of tuberculosis for every annual death in a community where active search for cases is made. Here is a challenge to the health agencies to discover at least 600 active cases of tuberculosis in Wilmington.

The venereal disease program is one of major importance. Details have not yet been worked out for the assumption of full responsibility by the City Board of Health. The city began with the establishment of rapid treatment centers for the treatment of syphilis with penicillin. The first center was started in the New Castle County Workhouse for the treatment of syphilitic inmates. The program started with fifty-five patients and later extended to 68. Although we are not prepared to make a complete report at this time, it can be stated that the method was found practical and efficient in rendering the patients non-infectious and in giving them complete courses of therapy without interruption. The Health Commissioner is empowered by law to keep an inmate in the workhouse as long as is necessary for treatment, especially in individuals who are transients or who are habitually delinquents. The second rapid treatment center was initiated by the City Board of Health at the Wilmington General Hospital for outpatient cases who are treated daily with peni-

(Concluded on Page 37)

+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

W. EDWIN BIRD, M. D. Editor
822 North American Building
JOHN F. HYNES, M. D. Associate Editor
1501 Van Buren Street
M. A. TARUMIANZ, M. D. Assoc. & Managing Editor
Farnhurst, Del.

Articles are accepted for publication on condition that they are contributed solely to this JOURNAL. Manuscripts must be typewritten, double spaced, with wide margins, and the original copy submitted. Photographs and drawing for illustrations must be carefully marked and show clearly what is intended.

Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

Changes in manuscript after an article has been set in type will be charged to the author. THE JOURNAL pays only part of the cost of tables and illustrations. Unused manuscripts will not be returned unless return postage is forwarded. Reprints may be obtained at cost, provided request is made of the printers before publication.

The right is reserved to reject material submitted for publication. THE JOURNAL is not responsible for views expressed in any article signed by the author.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the A. M. A. Advertising forms close the 25th of the preceding month.

Matter appearing in THE JOURNAL is covered by copyright. As a rule, no objection will be made to its reproduction in reputable medical journals, if proper credit is given. The reproduction in whole or in part, for commercial purposes of articles appearing in THE JOURNAL will not be permitted.

Subscription price: \$4.00 per annum, in advance. Single copies, 50 cents. Foreign countries: \$5.00 per annum.

VOL. 20

FEBRUARY, 1948

No. 2

WORTH WATCHING

Socialized medicine goes into effect in Great Britain on Monday, July 5, 1948. The American profession is grateful that the enslavement of their British confreres does not begin on July the Fourth, our anniversary of freedom. Britain's Labor Government embarks nonchalantly on this enormously expensive experiment at the very time it is on its knees begging Uncle Sam to lend more billions to fend off its impending bankruptcy. We believe that, if the British people were fully informed of the full implications of this medical socialization, along with that of the banks, railroads, etc., they would overthrow this government by a good majority.

Despite the shortcomings of the medical practice of today laymen who think are not too sure that Britain is stepping out on the right foot. The following editorial from the

Baltimore Sun of February 20th, is a case in point:

TROUBLE AHEAD FOR THE BRITISH MEDICAL SCHEME

It is not for us in this country to pass judgment on how the British people look out for their health. But, since similar schemes for socialized medicine have been proposed for the United States, it is altogether proper that we study the tangle into which the British Government and the British doctors have got themselves over the National Health Service Act.

The act, which is due to come into operation in July, virtually puts the Government in control of the medical profession, the hospitals and other health facilities. Under the act the Government will determine medical fees and pay the doctors. The Government will decide what doctors are qualified to practice and will discharge those it judges unfit. In such case the offending doctor will have no recourse to the courts. In areas where the Government believes there are already enough doctors it will forbid others to come in.

The term "free medical service" is something of a misnomer. It is an expensive undertaking in which 72 per cent of the cost will come out of the Government Treasury, 4 per cent from local taxes and the remaining 24 per cent from payroll deductions. In fact, it is so costly that some of its critics have charged the Labor party with a lack of sense of reality in pushing such an ambitious social program when the nation is struggling to stave off bankruptcy.

The act reserves one right for the doctors. That is the right not to participate. Now the results of a plebiscite of the British Medical Association reveal that 86 per cent of Britain's doctors favor the exercise of that right. They have voted not to participate. If they abide by their vote, the Government will have only a handful of general practitioners and specialists to care for a population of 47,000,000.

Mr. Aneurin Bevan, Health Minister, is assuming that economic compulsion will force the doctors to come in, since they will not be able to make a living in private practice once the new plan is in operation. The object of the act is to improve medical care. There may be some question as to how much improvement there will be if the Health Minister and the professional men whom he compels by economic pressure to work for him are in open warfare. Yet, so far, Mr. Bevan has shown no indication of appealing the doctors by seeking alterations in the law to meet their strongest objections. His recent utterances have been those of an angry man determined to make full use of his powerful position to win his way.

In all of this there is food for thought for the American public and, in particular, for our medical profession. For all its great accomplishments, our traditional medical system, which is based on private practice, has obvious weaknesses. Such weaknesses, if ignored, are an invitation to just such experiments in socialized medicine as the one now confronting the British doctors.

In this country, and especially here in Maryland, a program for improved medical care based upon the existing system of private practice is well under way. Members of the general public and of the medical profession who are inclined to

obstruct this new program would do well to reflect on what is happening in Britain.

The second editorial, re California, shows how medical bureaucracy acts, even in America, whenever it gets the chance. Read it and remember!

COMPULSORY QUAKE IN SAN FRANCISCO

While we deplore being smug and hate to cluck our tongues, there are times when the temptation to say, "I told you so," becomes more than all too frail flesh can resist. This is such a time.

With the resignation of 900-odd physicians from the professional staff of 1,000 of San Francisco's Health Service System, the only governmental compulsory health insurance system in force in the United States ground to a virtual halt on November 10, 1947. The plan, covering the city's 17,000 municipal employees and their families, was installed ten years ago by the voters over the protests of organized medicine. It has, throughout its undistinguished career, been subject to all of the evils inherent in a compulsory socialized medical scheme. To thwart its original opponents, it began by promising too much for too little. When financial clouds appeared, funds needed for medical service were first allocated to bureaucratic overhead. Even when, in desperation, rates were increased, the participating physicians contributed hundreds of thousands of dollars in unpaid medical services in an attempt to bolster the system.

In appreciation of the aid that medicine freely gave, Dr. Alexander A. Keenan, medical director of the plan, recently issued a letter to the doctors on the panel citing the plan's financial difficulties, and calling for a lowering of the quality of medical care to insured members. This indefensible directive called for staff doctors to:

1. Limit and restrict the use of laboratory tests, X-ray examinations, and normal diagnostic procedures — and to substitute "routine examinations" for careful, scientific diagnosis. The diagnostic procedures thus restricted are essential safeguards for the early detection of cancer, tuberculosis, pneumonia, and other serious diseases.

2. Discourage patients with "minor ail-

ments" from seeking medical treatment and advise them to use "home remedies."

3. Deny hospitalization to HSS members, except in emergency cases, without specific authorization of the medical director of HSS.

Of particular interest to the radiologist is the statement in the letter that the medical director believed "between 50 and 60 per cent" of the X-ray examinations he inspected were unnecessary. It follows, therefore, that between 40 and 50 per cent were necessary. It's a poor school of medical practice which in the name of economy advocates risking improper diagnosis in 40 to 50 per cent of the cases. It's a school that can exist only under a compulsory system of enforced participation.

The response elicited by this abomination was fore-ordained. To "turn the other cheek" is Godly admonition, but "to thine own self be true" is the primary ethic of the man of good will. The Board of Directors of the San Francisco County Medical Society well stated the case. "To every doctor who is faithful to his profession, the health and welfare of his patients must come first, and the great majority of the doctors on the HSS panel have decided that they cannot in good conscience remain as members of your staff. They have reached this decision because of constant pressure from the HSS management to deny their patients adequate medical and hospital care."

Thus, the impasse has been reached. The organized doctors of San Francisco will not be parties to this bureaucratic experiment in cheap, assembly line medicine, and Director Keenan has invited 250 doctors who are not members of the county society to join the system.

A forecast? Either the system will be immediately abandoned, its compulsory features will be eliminated and rates will be raised to sound actuarial levels, or it will slowly bleed to death as first one and then another of the unorganized physicians resign in protest against the intolerable conditions which are the inevitable outgrowth of a compulsory, bureaucratic system.

Amer. Coll. Radiol. News Letter, Dec., 1947.

A SOCIALIZING PATTERN?

Is there a concerted action to socialize medicine? Or, may we, the doctors, be complacent

because the National Compulsory Health Bills did not pass in the last session of Congress? Those who remember back a few years will never forget the unfavorable propaganda that appeared in the press and the magazines at the time Thurman Arnold was preparing for and did rake the American Medical Association over the coals and convicted them of breaking the Sherman Antitrust law.

Senator Vandenberg warned a group of Michigan State Medical Society and Michigan Medical Service officers, on October 30, 1947, that it would amaze us to know how easily Socialized Medicine could be accomplished in the United States. He said the proponents are working around the clock, in season and out, while the medical people oppose the theory only when Congress is in session and dangerous bills are pending. Fire cannot be put out unless we realize that we have a fire, and we are willing to fight with determination.

Is there a fire? If so, who is feeding it?

Harper's Magazine

Bernard DeVoto (*Harper's Magazine*, September, 1947) reports the Centennial Session of the American Medical Association. He writes a very readable story, on the humorous side, but carrying some measure of ridicule. He "devotes" over two pages to a quasi-humorous report on the opposition of the medical profession to the Wagner-Murray-Dingell Bill, and to every effort to "change the form of medical practice." Dr. Edward A. Parkes, formerly pediatrician-in-chief at the Johns Hopkins Hospital, "by temperament and background surely no revolutionist," is freely quoted criticizing "the behavior of organized medicine (which) is humiliating."

DeVoto comments on the Washington Health Group Association and the subsequent Supreme Court decision. He reports the sense of the American Medical Association that "there must be no federally controlled health program. There must be no federal control over the practice of medicine . . . all effective power must be reserved to organized medicine." He confuses the issue by involving preventive medicine in the National Health Programs, and implying opposition to that.

DeVoto also refers to the Taft Bill: "Those who determine the American Medical Association policies certainly know that the Taft Bill

for a national health program is not meant to pass, or even to come to a vote." Support to that bill is said to be only "to confuse the issue." The whole tone of the article is that the medical profession is opposing all progressive measures in the distribution of medical care, and including preventive medicine. Does DeVoto use that most dangerous weapon, ridicule, to laugh socialized medicine onto the medical profession?

Look Magazine

Look Magazine for November 11, 1947, asks, "Can We Solve Our Health Problems?" in an article by Harold B. Clemenko. This you should see, as well as read. Two-thirds of the page is a picture of a group of people sitting supposedly in some clinic or doctor's office. They should not be in a clinic for those who cannot afford to pay, for they all look well dressed. One boy has braces and a crutch, and the caption reads, "These people want medical advice; three or four families like them need help to meet medical bills." The seventeen million draftees are mentioned. Figures are quoted: 23,000,000 Americans have a chronic disease or physical impairment, 7,000,000 are incapacitated by sickness or other disability in any given day; 40,000 lives could be saved from cancer by providing detection centers; one out of every seven young men is in *urgent* need of some kind of medical or dental treatment; 15,000,000 Americans living in 405 of all U. S. counties have no recognized hospitals. Half the women who die in childbirth and a third of the babies could be saved, if known measures were applied.

Then the questions are asked, "What is the reason for this condition? How can we remedy it? For President Truman's answer turn the page." The President says most Americans cannot afford adequate medical care. The perennial Wagner-Murray-Dingell Bill is outlined, showing "complete" medical service which includes "family physician, specialist, surgeons, hospital care, x-rays, laboratory tests, eyeglasses, special appliances, unusually expensive medicines, limited dental and home nursing care." In short, this law (Wagner-Murray-Dingell Bill) will eliminate your doctor bills for life."

Arguments are given for the program, prominent among them being "the doctor will

benefit because the plan will eliminate the uncollected bills which now represent 25 per cent of his practice." The Truman-Wagner-Murray-Dingell measure is presented as the answer to all medical problems.

The arguments against the plan are weakly presented, dubbing the Taft Bill a plan "offering charity instead of insurance," and calling it "The Taft Charity Bill." Plainly, the author of this article has not read that bill, or if he has he deliberately misinterprets it. He claims the growth of voluntary plans is too slow, from 700,000 in 1942 to 5,000,000 in four years, or one million a year. But it might be sevenfold in four years, and that would rapidly cover the nation. "But health authorities (who are they but employes of some government bureau?) believe that although voluntary plans have been growing phenomenally, their rate of increase will now slow up as they are forced to seek new members in the low-income groups."

And the final blast: "The future health of America must be safeguarded. Will we do it with compulsory national health insurance?"

Parade

Parade, the Sunday picture magazine of the *Detroit Free Press* for November 16, 1947, joins in the "parade" with an article by Edward J. Nickel, "Programs for National Health." Again we look at the "facts," as he calls them, and they are not pretty. "One-third of the nation's young men were declared unfit for military service"; "One million deaths occur each year from chronic diseases alone"; "seventeen million Americans now living will die of cancer unless a cure is found." The merits of the two bills which will come up in Congress are given in two columns, side by side, and this is not too bad a presentation, except that it could be much more enthusiastic.

Is there a pattern discernible? Could some means have been found to stimulate all this propaganda, and make it as "Impartial" as possible by seeming to present both sides?

We reported recently that seventy-five millions of dollars have been used by federal bureaus for the spread of the socialized medicine plans, and that a mission is now in Japan attempting to foist a Wagner-Murray-Dingell Bill on helpless defeated Japan. On Tuesday,

November 17, 1947, the *Chicago Tribune* reported editorially that the executive branches had admitted diverting fifty millions of dollars from the Greek relief as appropriated by Congress to the ballyhoo of the food plans of meatless Tuesdays and eggless and poultryless Thursdays. If money can be so used with impunity, these same or other executive branches can do the same thing to promote their socialist philosophies. The Third Interim report of the Committee on Expenditures says they *have*.

Still A Pattern?

Two doctors a few days ago called the editor's attention to an article in *Time* for December 1, 1947, reporting that Bernard M. Baruch has advocated compulsory health insurance, and called upon the doctors to stop their opposition to the Wagner-Murray-Dingell Bill. We read the article and asked several persons, not doctors, to read it and give their opinions. They all interpreted it the same, as favoring the national compulsory health program of Wagner-Murray-Dingell. The article reports that, "Elder Statesman Bernard M. Baruch is a doctor's son. In the past few years vigorous, health-minded Bernie Baruch has given millions for the advancement of medical education and research. Last week he talked like a Dutch uncle to a Manhattan gathering of 600 medicos and hospital administrators. *'It is high time,' he said, 'that doctors give up their stiff-necked opposition to compulsory health insurance.'*"

Said Baruch: "[Voluntary health insurance] is not enough. . . . What troubles me most are the needs of that sizable segment of society which does not earn enough to pay for voluntary insurance. . . . Nothing has been suggested so far which promises success other than some form of insurance covering these people by law and financed by the Government, at least in part. . . . A form of compulsory health insurance . . . can be devised . . . without the Government taking over medicine, something I would fiercely oppose." (This is quoted word for word, deletions and all, exactly as it appeared in *Time*, December, 1947, page 49. Italics ours.)

"Said Baruch, staring defiantly at his silent audience: 'I do not fear Government taking its legitimate part in medicine, any more than

I fear it in education and housing. . . . I urge the doctors to get in and pitch — not stand by on the sidelines.' Mr. Baruch said he was "shocked to learn that at least 4,000,000 men had been rejected as 4Fs."

Such was the report in *Time*.

The Truth?

Now what did Mr. Baruch say? The *New York Herald Tribune*, Sunday, November 23, 1947, said Mr. Baruch advocated a form of health insurance for low-income groups who are unable to pay for voluntary insurance such as the Blue Cross Plan offers. Mr. Baruch noted that in 1939 the American Medical Association estimated that two-thirds of the nation's population could not "afford the cost of serious illness." "Some of these can afford voluntary insurance, although inflation has reduced that number. But what of the little fellow? I have asked that of nearly every one with whom I have discussed medical care. Nothing has been suggested so far, which promises success, other than some form of insurance covering these people by law and financed by the government, at least in part, what some would call 'compulsory health insurance.'"

Mr. Baruch further said: "All law imposes compulsion. A form of compulsory health insurance for those who cannot afford to pay voluntary health insurance can be devised, adequately safeguarded, without involving what has been termed 'socialized medicine.' The needs can be met — as in other fields — without the government taking over medicine, *something I would fiercely oppose*. I do not fear government taking its legitimate part in medicine any more than I fear it in education or housing. *I oppose socializing here*. It leads ultimately to the police state, degradation of the individual and lessened well being."

Careful deletions can make a story sound different. "Comparing Mr. Baruch's statements regarding the persons who need medical assistance and cannot afford it, with health legislation now pending in Congress, Dr. Elliott (president of United Medical Services, before whose group Mr. Baruch was speaking) said, 'Mr. Baruch's ideas do not seem inconsistent with the Taft Bill, but are contrary to the Murray-Wagner Insurance Bill, which

makes no provision for the medically indigent.'"

We hope some one will provide Mr. Baruch with Dr. Goin's analysis of the 4,000,000 rejected 4Fs; also a copy of the Taft Bill, and the Wagner-Murray-Dingell Bill, and see to it that he reads them. Many suggestions have been made that would provide for the person who cannot afford to pay for the costs of adequate medical care. The Medical Service plans are built on that basis, placing those costs on an insurance basis on the large group, who can in most instances pay this *budget plan*. To counter this insidious propaganda, every doctor should be completely familiar with the proposed bills; he must be on the alert for misleading statements whether in the press, magazines or by personal contacts. If allowed to go unchallenged, the propagandists will have gained their points.

Editorial, *J. Mich. S. M. S.*, January, 1948.

The Wilmington Board of Health and the Rapid Treatment Center for Syphilis

(Concluded from Page 32)

cillin in oil and beeswax (POB). A city health nurse was placed in charge to give the injections from Monday through Friday, and the dispensary hospital nurse gives the injections on Saturday and Sunday. The clinic is scheduled between 1 and 2 p. m. No difficulty was experienced in the regular attendance of the patients. The physician in charge of the clinic examines every patient and the history and diagnosis carefully filled out. Monthly quantitative Kahn tests are performed. From April 24, 1947 to December 16, 1947, 80 patients were admitted for treatment as ambulatory cases.

When the success of these centers was recognized, the City Board appealed to the State Board of Health for a supply of penicillin to give to all the local hospitals free of charge to start a penicillin therapy program in conjunction with their clinics. This program was then started and the city now supplies all the penicillin that the hospitals request for their ambulatory cases, and sodium penicillin for any in-patients. The State Board of Health has also appointed nurses who attend the penicillin clinics and fill out the information re-

ports. All of the reports are turned over to the City Health Department where the records are tabulated and filed. A copy of these records is forwarded to the State Board of Health. These hospital clinics are not public health clinics conducted by the Health Board. They are regular clinics in charge of the chiefs appointed by the hospitals. The treatments are given by the hospital nurses in charge of the V-D clinics. In other words these rapid treatment centers are now part of the regular clinic service of the hospitals. The City Board of Health nurse who was originally in charge of the Wilmington General Hospital clinic has now been replaced by the hospital V-D clinic personnel. It is believed that this arrangement will be more satisfactory than instituting separate V-D clinics outside of the established hospitals and managed by the health board as "health centers."

The treatment centers have been established; the next step is a case finding program. Plans are now in progress to carry out an extensive city-wide program with the cooperation of the Delaware State Board of Health and the United States Public Health V-D Control Division. The cooperation of all physicians will be needed for doing more serological tests and for the reporting of cases. If the number of syphilitic cases eventually decreases considerably, it is hoped that penicillin may be distributed to physicians without charge provided that the cases are reported to the Health Board.

MISCELLANEOUS

A Letter of Thanks

201 S. Du Pont Street
Wilmington 129, Del.
February 10, 1948.

Dear Dr. Hynes:

Will you please extend to the members of the Medical Society of Delaware my sincere appreciation for the thought and deeds embodied in the Donald W. Cheff Memorial Fund. No words can express my gratitude. I fervently hope and pray that Don's son, Teddy, will grow to be deserving of such a fine tribute — a living memorial to Donald W. Cheff, M. D.

Sincerely,
(MRS.) ELIZABETH C. CHEFF

Annual Postgraduate Institute

The Twelfth Annual Postgraduate Institute of the Philadelphia County Medical Society will be held at the Bellevue-Stratford Hotel, April 20-23, 1948. Due to the success of last year's program it is again planned to present the material in the form of a series of symposia on subjects of practical interest to the general practitioner and specialist.

Among the topics to be covered are Problems in Obstetrics and Gynecology, Newer Drugs and Procedures, Surgery of the Ambulatory Patient, Fractures, the Painful Breast, Neuropsychiatric Disorders, Problems of the Aged, the Acute Abdomen, Gastrointestinal Disorders, and Otolaryngological Problems.

In addition to the regular morning and afternoon programs there will also be two evening sessions at the Society Building on the subjects of Cancer and Pediatrics.

The usual large number of technical exhibits will be important features of the sessions. Registration fee for the entire meeting is five dollars. Copies of the preliminary program will be mailed very shortly to every physician in Delaware. Further inquiries should be addressed to Gilson Colby Engel, M. D., Director, 301 South 21st Street, Philadelphia 3, Pa.

Diseases of the Chest

The American College of Chest Physicians, Pennsylvania Chapter, and the Laennec Society of Philadelphia, are sponsoring a post-graduate course in diseases of the chest to be held during the week of March 15-20, 1948, at the Warwick Hotel, Philadelphia, Pennsylvania.

The emphasis in this course will be placed on the newer developments in all aspects of diagnosis and treatment of diseases of the chest.

The course will be limited to 30 physicians. Tuition fee is \$50.00 for members, and \$90.00 for non-members.

Further information may be secured at the office of the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

An Unkind Cut Is Offered Surgeons

Dr. Bertram M. Bernheim, author of the recently published and controversial, "A Surgeon's Domain," is at it again. In the October issue of *The Modern Hospital* he comes forth again with recommendations that all surgery be performed by salaried employees of hospital corporations.

According to Doctor Bernheim's thesis, among the many results which will automatically flow from the elimination of the surgeon from private practice are a better distribution of doctors, integration and standardization of fees, an enormous increase in revenue to hospitals, control of the surgeon's professional conduct through staff organization, and elimination of "bad medicine," "bad surgery," and "too much surgery" through increased objectivity in surgeons resulting from the disappearance of the profit motive. The desirability of some of these ends is questionable, whether the means selected would accomplish those which are desirable is even more doubtful.

It may be noted that Doctor Bernheim has begun to reverently refer to his plan as "The System." There is no affection comparable to mother love save that of a father for his brain child. It seems evident that Doctor Bernheim has succumbed to this latter emotion, and, like any parent, is more hopeful of his child's potentialities than is strictly warranted.

Radiologists can be thankful to Doctor Bernheim for one thing. At least he will convince surgeons that they too have a stake in the trend for hospitals to invade the practice of medicine through salaried physicians.

Amer. Coll. Radiol. News Letter, Feb. 1948.

Twenty-five years ago the main problem in the recognition of tuberculosis was the perfection of diagnostic techniques to a point where they could be depended on to detect pulmonary lesions before the patient's disease was hopelessly advanced. Today the urgent question is how to apply one or more of the available satisfactory procedures in such a way as to detect tuberculosis in the incipient stage in the majority of patients and at a cost within the reach of the community. Henry D. Chadwick, M. D. and Alton S. Pope, M. D. *The Modern Attack on Tuberculosis. The Commonwealth Fund, Revised, 1946.*

OBITUARY

WALTER C. DEAKYNE, M.D.

Dr. Walter C. Deakyne, a leader in medical circles in the state, and active in community civic affairs, died suddenly of a heart attack, on February 11th, at his home in Smyrna, aged 56.

Dr. Deakyne was the son of the late W. Gray and Blanche Wallis Deakyne and was born near Smyrna, Dec. 31, 1891. He is survived by his wife, Mrs. Thelma Robinson Deakyne; two sons, W. C. Deakyne, Jr., of the University of Delaware; David, at home; a brother, Homer Deakyne of Salsbury, Md.; two sisters, Mrs. Hillary Oliver and Mrs. Ernest Holt, of Philadelphia, and his stepmother, Mrs. Gray Deakyne, Philadelphia.

Dr. Deakyne had practiced in Smyrna since 1922. He attended Jefferson Medical College and graduated from the University of Maryland Medical School in 1919. He served his internship at St. Joseph's Hospital, Baltimore, and was resident physician at Maryland General Hospital in Baltimore.

During World War I he was a lieutenant in the Medical Reserve Corps. During World War II, he served for five years as examining physician for New Castle County Selective Service Board No. 2. At the close of the war he was awarded the Selective Service Medal.

Dr. Deakyne was a past president of the Medical Society of Delaware and the Kent County Medical Society. He was on the staff of physicians of the Kent General Hospital at Dover and served on the rural medical service and tuberculosis committees of the state medical group. He was censor of the Kent County society.

He was a member of the American Medical Association, the Medical Club of Philadelphia, Harmony Lodge, A. F. and A. M., St. Peter's P. E. Church, the Smyrna Rotary Club, David C. Harrison Post, American Legion, and the Maple Dale Country Club, Dover.

The funeral took place from his late home on February 15th, the Rev. Robert E. Green, pastor of Asbury Methodist Church, officiating. Interment was in Odd Fellows Cemetery.

1789—MEDICAL SOCIETY OF DELAWARE—1948

OFFICERS

PRESIDENT, Howard S. Riggan, Seaford	SECRETARY, G. A. Beatty, Wilmington
FIRST VICE-PRESIDENT, M. A. Tarumianz, Farmhurst	TREASURER, Winfield W. Lattomus, Wilmington
SECOND VICE-PRESIDENT, Henry V'P Wilson, Dover	COUNCILORS
Clarence J. Prickett, Smyrna (1948)	Ervin L. Stambaugh, Lewes (1949)
AMERICAN MEDICAL ASSOCIATION—DELEGATE: James Beebe, Lewes (1949). ALTERNATE: C. C. Neese, Wilmington (1949)	JOSEPH M. MESSICK, Wilmington (1950)
REPRESENTATIVE TO DELAWARE ACADEMY OF MEDICINE, W. O. LaMotte, Wilmington	C. E. Wagner, Wilmington

STANDING COMMITTEES

SCIENTIFIC WORK	TUBERCULOSIS
G. A. Beatty, Wilmington	L. D. Phillips, Marshallton
Stanley Worden, Dover	G. A. Beatty, Wilmington
E. L. Stambaugh, Lewes	J. M. Barsky, Wilmington
PUBLIC POLICY AND LEGISLATION	L. B. Flinn, Wilmington
J. S. McDaniel, Dover	J. M. Messick, Wilmington
J. D. Niles, Townsend	J. S. McDaniel, Jr., Dover
Bruce Barnes, Seaford	W. C. Deakyne, Smyrna
PUBLICATION	H. G. Hume, Selbyville
W. E. Bird, Wilmington	O. S. Daisey, Rehoboth
M. A. Tarumianz, Farmhurst	MATERNAL AND INFANT MORTALITY
G. A. Beatty, Wilmington	A. H. Williams, Laurel
MEDICAL EDUCATION	C. H. Davis, Wilmington
W. G. Hume, Selbyville	Margaret I. Handy, Wilmington
R. S. Layton, Dover	MENTAL HEALTH
J. W. Howard, Wilmington	Persis F. Elfeld, Wilmington
NECROLOGY	C. B. Scull, Dover
Wm. Marshall Jr., Milford	O. V. James, Milford
G. W. K. Forrest, Middletown	CRIMINOLOGIC INSTITUTES
U. W. Hocker, Lewes	E. R. Mayerberg, Wilmington

SPECIAL COMMITTEES	E. J. MacCollum, Wyoming
ADVISORY, WOMAN'S AUXILIARY	U. W. Hocker, Lewes
H. G. Buckmaster, Wilmington	MED. ECON. AND PUBLIC RELATIONS
C. C. Neese, Wilmington	G. W. K. Forrest, Wilmington
J. B. Waples, Georgetown	B. M. Allen, Wilmington
Verna Stevens Young, Wilmington	I. L. Chipman, Wilmington
C. C. Fooks, Milford	Wm. H. Speer, Wilmington

CANCER	J. S. McDaniel, Dover
V. D. Washburn, Wilmington	F. R. Everett, Dover
D. M. Gay, Wilmington	G. M. Van Valkenburgh, Georgetown
J. F. Hynes, Wilmington	H. M. Manning, Selbyville
J. D. Niles, Middletown	REVISION OF BY-LAWS
J. W. Howard, Wilmington	W. E. Bird, Wilmington
J. W. Spies, Dover	E. R. Miller, Wilmington
C. J. Prickett, Smyrna	C. E. Wagner, Wilmington
James Beebe, Lewes	J. S. McDaniel, Dover
Bruce Barnes, Seaford	R. C. Beebe, Lewes

SOCIAL HYGIENE	VOCATIONAL REHABILITATION
D. D. Burch, Wilmington	James Beebe, Lewes
M. B. Thompson, Rehoboth	I. M. Flinn, Wilmington
W. H. Smith, Harrington	E. L. Stambaugh, Lewes

NEW CASTLE COUNTY MEDICAL SOCIETY	WOMAN'S AUXILIARY
Meets Third Tuesday	MRS. GEORGE C. McELFATRICK, President, Wilmington
A. LEON HECK, President	MRS. S. W. RENNIE, Recording Secretary, Wilmington
C. L. MUNSON, President-elect	MRS. A. M. GERHET, Corresponding Secretary, Wilmington
L. W. ANDERSON, Vice-President	MRS. C. M. BANCROFT, Treasurer, Wilmington
D. D. BURCH, Secretary	
CHARLES LEVY, Treasurer	
Board of Directors and Nominating Committee: L. B. Flinn 1948, Ira Burns 1949, Roger Murray 1950.	
Board of Censors: N. W. Voss 1948, C. L. Hudiburg 1949, C. L. Munson 1950, J. M. Messick 1951, I. M. Flinn, Jr. 1952.	
Program Committee: C. L. Munson, A. L. Heck, L. W. Anderson.	
Legislative Committee: L. C. McGee, F. A. Bowdile, J. R. Durham, Jr., J. A. Giles, J. C. Pierson.	
Public Relations Committee: V. D. Washburn, C. T. Lawrence, Jr., M. B. Pennington, O. N. Stern, C. E. Wagner.	
Medical Economics Committee: W. M. Pierson, G. A. Beatty, W. E. Bird, E. M. Bohan, E. T. O'Donnell.	
Necrology Committee: Charles M. Maroney, I. Charamella, S. W. Rennie.	
Auditing Committee: F. S. Skura, A. G. Gluckman, E. G. Laird.	
Delegates (1948): D. D. Burch, Ira Burns, N. L. Cutler, J. R. Durham, Jr., J. A. Giles, A. L. Heck, J. C. Pierson, W. F. Preston, M. A. Tarumianz, R. O. Y. Warren.	
Alternates (1948): G. M. Boines, Italo Charamella, D. M. Gay, L. S. Hayes, A. J. Heather, A. D. King, E. T. O'Donnell, M. B. Pennington, F. P. Rovitti, O. N. Stern.	
Delegates (1949): L. W. Anderson, W. E. Bird, L. B. Flinn, G. W. K. Forrest, J. F. Hynes, L. J. Jones, E. G. Laird, L. C. McGee, Roger Murray, J. D. Niles, V. D. Washburn.	
Alternates (1949): E. M. Bohan, I. M. Flinn, Jr., A. D. King, C. E. Maroney, E. T. O'Donnell, W. M. Pierson, D. J. Preston, W. T. Reardon, J. A. Shapiro, O. N. Stern, J. W. Uriel.	

KENT COUNTY MEDICAL SOCIETY

Meets First Wednesday	INDUSTRIAL HEALTH
BENJAMIN F. BURTON, President, Dover	J. R. Downes, Newark
S. M. D. MARSHALL, Vice-President, Milford	T. H. Baker, Elsmere
STANLEY WORDEN, Secretary-Treasurer, Dover	J. D. Niles, Middletown
Delegates: I. J. MacCollum, Wyoming	W. C. Deakyne, Smyrna
Alternates: W. C. Deakyne (dec.), Smyrna; J. S. McDaniel, Dover.	H. W. Smith, Harrington
Censors: W. C. Deakyne (dec.), Smyrna; John Baker, Milford; Stites McDaniel, Dover.	Bruce Barnes, Seaford

DELAWARE ACADEMY OF MEDICINE

MEDICINE	RURAL MEDICAL SERVICE
Open 10 A. M. to 1 P. M.	J. R. Downes, Newark
EDGAR R. MILLER, President.	T. H. Baker, Elsmere
GERALD A. BEATTY, First Vice-President.	J. D. Niles, Middletown
DOUGLAS T. DAVIDSON, SR., Second Vice-President.	W. C. Deakyne, Smyrna
ROBERT R. WIER, Secretary.	I. J. MacCollum, Wyoming
IRVIN M. FLINN, Treasurer.	H. W. Smith, Harrington

DELAWARE PHARMACEUTICAL SOCIETY

THOMAS N. DAVIS, President, Wilmington.
IRVIN WALLER, First Vice-President, Bridgeville.
J. G. MCNAUGHTON, Second Vice-President, Middletown.
H. C. HELM, Third Vice-President, Dover.
WALLACE WATSON, Secretary, Wilmington.
ALBERT DOUGHERTY, Treasurer, Wilmington.

MEDICAL COUNCIL OF DELAWARE

Hon. Charles S. Richards, President;
Joseph S. McDaniel, M. D., Secretary;
Wallace M. Johnson.

SPECIAL COMMITTEES

POSTWAR PLANS

M. A. Tarumianz, Wilmington
W. E. Bird, Wilmington
W. O. LaMotte, Wilmington
W. H. Speer, Wilmington
J. S. McDaniel, Dover
William Marshall, Jr., Milford
J. R. Elliott, Laurel
J. B. Waples, Georgetown
R. C. Beebe, Lewes

BUDGET

M. A. Tarumianz, Wilmington
C. E. Wagner, Wilmington
J. D. Niles, Middletown
J. S. McDaniel, Dover
James Beebe, Lewes

CHEFF MEMORIAL

W. W. Lattomus, Wilmington
E. R. Miller, Wilmington
A. J. Heather, Wilmington
ADVISORY, DELAWARE STATE HEALTH AND WELFARE CENTER
L. J. Jones, Wilmington

INDUSTRIAL HEALTH

H. L. Springer, Wilmington
J. M. Klemick, Wilmington
L. C. McGee, Wilmington
H. V. Wilson, Dover
J. B. Baker, Milford
E. L. Stambaugh, Lewes
D. L. Bice, Seaford

RURAL MEDICAL SERVICE

J. R. Downes, Newark
T. H. Baker, Elsmere
J. D. Niles, Middletown
W. C. Deakyne, Smyrna
H. W. Smith, Harrington
Bruce Barnes, Seaford
W. G. Hume, Selbyville

INDUSTRIAL HEALTH

J. R. Downes, Newark
T. H. Baker, Elsmere
J. D. Niles, Middletown
W. C. Deakyne, Wyoming
E. L. Stambaugh, Lewes

SUSSEX COUNTY MEDICAL SOCIETY

VIRGIL A. HUDSON, President, Millsboro.
LESLIE M. DOBSON, Secretary-Treasurer, Millsboro.
Delegates: Bruce Barnes, R. S. Long, James Beebe, H. S. Riggan.
Alternates: L. M. Dobson, C. M. Moyer, E. L. Stambaugh, G. W. M. Van Valkenburgh.
Censors: O. A. James, R. C. Beebe, A. C. Snoot.

DELAWARE STATE DENTAL SOCIETY

JAMES KRYGIER, President
